

Cerebral palsy patient who developed mortal complications following hip surgery: A case report

Cerebral palsy patient who developed mortal complications

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Abstract

Patients with cerebral palsy (CP) may develop complications such as infection or repeat dislocation following orthopedic surgery and rarely, mortal complications. A 7-year-old male CP patient underwent an iliac and femoral osteotomy due to a hip dislocation. Following the operation, the patient was discharged with a stable condition, but was admitted to the intensive care unit 3 days later after his clinical condition deteriorated. Detailed examination showed that the patient was experiencing hypovolemic shock due to gastrointestinal bleeding and died on the 3rd day of follow-up in the intensive care unit despite all revival efforts. In countries lacking hip follow-up programs, hip dislocations may be detected at a later period in CP patients. It should be noted that mortal complications may potentially develop in these patients after hip surgery. We presented this case report to put emphasis on these rare but serious complications.

Keywords

Cerebral Palsy, Hip Dislocation, Hypovolemic Shock, Mortal Complication

DOI: 10.4328/ACAM.22027 Received: 2023-10-27 Accepted: 2024-07-29 Published Online: 2024-08-08 Printed: 2024-10-20 Ann Clin Anal Med 2024;15(Suppl 2):S67-69

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Introduction

Hip problems are frequently seen in children with cerebral palsy (CP). Large scale research has shown that approximately 1 in 3 children with CP experience hip dislocation (HD) [1, 2]. The rate of developing HD has been found to be correlated with an increase in the severity of the gross motor function classification system (GMFCS) [3].

In these patients, early diagnosis and treatment are crucial for a better clinical outcome and reduced dependency on surgical intervention. CP patients have a higher likelihood of experiencing complications during hip surgery [4]. However, patients who have died due to post-operative complications have rarely been reported in the literature. In this article, we present a child CP patient who died due to complications arising

after hip surgery.

Case Report

A 7-year-old GMFCS-5 male CP patient did not have proper hip follow-up due to familial reasons. 3 months prior to surgery, the family applied to a physiotherapist and were referred to an orthopedist for surgical intervention after the examination revealed a potential hip dislocation.

The patient had received surgical treatment in another hospital due to a bilateral hip dislocation (Figure 1). An iliac and proximal femoral derotation-varisation osteotomy was applied to the patient's right hip (Figure 2). The patient was discharged on the post-operative 2nd day, but was transferred to our pediatric emergency service 1 day later due to clinical deterioration. Based on the evaluations, the patient was admitted to the intensive care unit with a provisional diagnosis of pulmonary embolism, gastrointestinal bleeding, and hemorrhagic shock. An endoscopy was subsequently performed, and hemorrhagic shock due to gastrointestinal system bleeding was considered. Despite all treatment efforts, the patient did not respond to cardiopulmonary resuscitation and died on the 3rd day of intensive care unit admission due to cardiac arrest.

Discussion

Studies have reported that CP patients who undergo surgery more commonly experience complications such as avascular necrosis of the femoral head, recurrent hip dislocation, femur fracture, aspiration pneumonia, neurological complications, and infection at the wound site [4]. In the literature, a clinical trial with 79 CP patients reported that 3 died due to complications following hip surgery [5]. Of these patients, 2 died on the post-operative 2nd week and 1 died 5 months later [5]; however, our patient developed mortal complications on the post-operative 1st week. In a study involving CP patients who underwent orthopedic surgery, Lee and colleagues reported that 3 patients went into peri-operative cardiac arrest and were resuscitated [6]. The early detection of hip problems in CP children will reduce dependency on surgical intervention and help prevent potential complications of surgery. In Europe, Australia and Canada, hip follow-up programs have increased the rates of early diagnosis and reduced the dependency on surgical treatment. In countries lacking routine hip follow-up programs, individuals with an increased risk of hip dislocation, especially GMFCS-5 patients, should be regularly monitored [7]. Anticipating the potential complications will help in preventing or minimizing their occurrence [4, 8]. This article presents a post-operative CP patient who died due to gastrointestinal bleeding.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Conflict of interest

The authors declare that there is no conflict of interest.

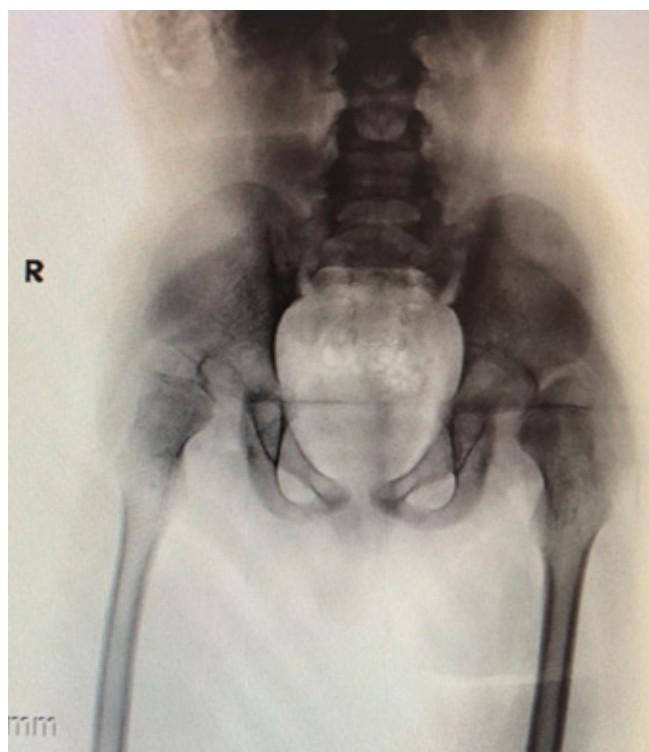


Figure 1. Preoperative x ray



Figure 2. Postoperative x ray

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How to cite this article:

Idris Çoban, Mehmet Fethi Ceylan. Cerebral palsy patient who developed mortal complications following hip surgery: A case report. *Ann Clin Anal Med* 2024;15(Suppl 2):S67-69